

**THE FOLLOWING ARE THE ENGLISH TRANSLATION  
OF ANNEXES TO THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT (ARTICLE 34):**

Amended Sheets (Pages 22-24)

We claim:

1. A polyalkene amine formulation, comprising at least one polyalkene amine in a solvent, wherein the formulation has at least one of the following low temperature properties:
  - a) cloud point less than or equal to  $-28^{\circ}\text{C}$  (determined to DIN ISO 3015 or DIN EN 23015)
  - b) pour point less than or equal to  $-27^{\circ}\text{C}$  (determined to DIN ISO 3016); and/or
  - c) no crystalline precipitates after storage at a temperature in the region of about  $-35^{\circ}\text{C}$ .
2. The formulation according to claim 1 having a pour point in the range from about  $-27$  to  $-55^{\circ}\text{C}$  and/or a cloud point in the range from about  $-28$  to  $-51^{\circ}\text{C}$ .
3. The formulation according to either of the preceding claims, wherein the solvent has a density ( $15^{\circ}\text{C}$ , ASTM D 4052, EN ISO 12185-1996) in the range from about  $650$  to  $900\text{ kg/m}^3$  and/or a viscosity ( $20^{\circ}\text{C}$ , ASTM D 445) in the range from about  $1.0$  to  $5.0\text{ mm}^2/\text{s}$ .
4. The formulation according to any of the preceding claims, wherein the solvent is selected from linear, branched and cyclic, saturated  $\text{C}_6$ - $\text{C}_{20}$  hydrocarbons and mixtures thereof.
5. The formulation according to claim 2, wherein the solvent is selected from S1) at least one n- or iso- $\text{C}_{10}$ - $\text{C}_{14}$  paraffin, S2) at least one  $\text{C}_{10}$ - $\text{C}_{14}$  naphthene, or mixtures thereof.
6. The formulation according to claim 5, wherein S1 and S2 are present in a mixing ratio of from 10:90 to 90:10.
7. The formulation according to any of the preceding claims, wherein the polyalkene moiety of the polyalkene amine is the polymerization product of identical or different, straight-chain or branched  $\text{C}_2$ - $\text{C}_6$  olefin monomers.
8. The formulation according to claim 7, wherein the polyalkene has a number-average molecular weight  $M_n$  of from about 200 to 10 000.

AMENDED SHEET

9. The formulation according to claim 8, wherein the polyalkene is derived from isobutene or an isobutenic monomer mixture.
10. The formulation according to claim 9, wherein the polyalkene is a polyisobutene (PIB).
11. The formulation according to any of the preceding claims, wherein the polyalkene amine is a polyisobutene amine (PIBA) which is derived from a polyisobutene having at least one of the following properties:
- a) fraction of vinylidene double bonds of at least 70 mol%, based on polyisobutene;
  - b) polyisobutene polymer structure composed of at least 85% by weight of isobutene units;
  - c) polydispersity in the range from 1.05 to 7.
12. The formulation according to any of claims 1 to 10, wherein the polyalkene amine is the reaction product of a polyalkene with an amine of the following general formula I
- $$\text{HNR}^1\text{R}^2 \quad (\text{I})$$
- where  
 $\text{R}^1$  and  $\text{R}^2$  are each independently H, a  $\text{C}_1$ - $\text{C}_{18}$ -alkyl,  $\text{C}_2$ - $\text{C}_{18}$ -alkenyl,  $\text{C}_4$ - $\text{C}_{18}$ -cycloalkyl,  $\text{C}_1$ - $\text{C}_{18}$ -alkylaryl, hydroxy- $\text{C}_1$ - $\text{C}_{18}$ -alkyl, poly(oxyalkyl), polyalkylene polyamine or a polyalkylene imine radical; or, together with the nitrogen atom to which they are bonded, are a heterocyclic ring.
13. The formulation according to any of claims 1 to 10, wherein the PIBA used is the reaction product of the hydroformylation and subsequent reductive amination of reactive PIB.
14. The formulation according to any of the preceding claims, wherein the solvent is the process solvent of the hydroformylation and subsequent reductive amination of reactive PIB.
15. A PIB formulation comprising PIBA in a mixture comprising a solvent as defined in any of claims 3 to 6, wherein PIBA is present in a fraction of at least about 63% by weight, based on the total weight of the mixture.

16. A fuel or lubricant composition comprising, in a majority of a fuel or lubricant, an amount, effective as an additive, of a formulation according to any of the preceding claims.
- 5 17. The use of a formulation according to any of claims 1 to 15
- a) as an additive for fuel or lubricant compositions, or
  - b) as an additive for printing inks.
- 10 18. The use according to claim 17 as an additive for improving the intake system-cleaning action of a gasoline fuel.
19. An additive package comprising a formulation according to any of claims 1 to 15, if appropriate in combination with at least one further coadditive.
- 15 20. The use of a solvent S1, S2 or of a mixture of S1 and S2 as defined in any of claims 3 to 6 for improving the low temperature performance of PIBA.
- 20 21. A process for preparing a polyalkene amine formulation according to any of claims 1 to 15, wherein
- a) a polyalkene as defined in any of claims 7 to 11 is dissolved in a solvent as defined in any of claims 3 to 6;
  - b) the solution is hydroformylated in a manner known per se in the presence of CO and H<sub>2</sub>; and
  - 25 c) the resulting oxo product is aminated under hydrogenating conditions in the presence of an amine of the above formula I in claim 12.
- 30 22. The process according to claim 21, wherein a solution is preferred in stage a) whose solvent fraction is at most 40% by weight based on the total weight of the solution.

## PATENT COOPERATION TREATY

PCT

NOTIFICATION CONCERNING  
SUBMISSION OR TRANSMITTAL  
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

From the INTERNATIONAL BUREAU

To:

REITSTÖTTER, KINZEBACH & PARTNER  
(GBR)  
Sternwartstrasse 4  
81679 München  
Germany

Date of mailing (day/month/year) 26 May 2004 (26.05.2004)	<b>IMPORTANT NOTIFICATION</b>
Applicant's or agent's file reference M/44079-PCT	
International application No. PCT/EP2004/003425	
International filing date (day/month/year) 31 March 2004 (31.03.2004)	
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 01 April 2003 (01.04.2003)
Applicant BASF AKTIENGESELLSCHAFT et al	

- By means of this Form, which replaces any previously issued notification concerning submission or transmittal of priority documents, the applicant is hereby notified of the date of receipt by the International Bureau of the priority document(s) relating to all earlier application(s) whose priority is claimed. Unless otherwise indicated by the letters "NR", in the right-hand column or by an asterisk appearing next to a date of receipt, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
- (If applicable) The letters "NR" appearing in the right-hand column denote a **priority document which, on the date of mailing of this Form, had not yet been received by the International Bureau** under Rule 17.1(a) or (b). Where, under Rule 17.1(a), the priority document must be submitted by the applicant to the receiving Office or the International Bureau, but the applicant fails to submit the priority document within the applicable time limit under that Rule, **the attention of the applicant is directed** to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
- (If applicable) An asterisk(\*) appearing next to a date of receipt, in the right-hand column, denotes a **priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b)** (the priority document was received after the time limit prescribed in Rule 17.1(a) or the request to prepare and transmit the priority document was submitted to the receiving Office after the applicable time limit under Rule 17.1(b)). Even though the priority document was not furnished in compliance with Rule 17.1(a) or (b), the International Bureau will nevertheless transmit a copy of the document to the designated Offices, for their consideration. In case such a copy is not accepted by the designated Office as priority document, Rule 17.1(c) provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
01 April 2003 (01.04.2003)	103 14 809.4	DE	18 May 2004 (18.05.2004)

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. (41-22) 338.89.75	Authorized officer  Christelle CROCI (Fax : 338 89 75)  Telephone No. (41-22) 338 9933
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From the INTERNATIONAL BUREAU

**PCT**

SECOND AND SUPPLEMENTARY NOTICE  
INFORMING THE APPLICANT OF THE  
COMMUNICATION OF THE INTERNATIONAL  
APPLICATION (TO DESIGNATED OFFICES  
WHICH APPLY THE 30 MONTH TIME  
LIMIT UNDER ARTICLE 22(1))

(PCT Rule 47.1(c))

To:

REITSTÖTTER, KINZEBACH & PARTNER (GBR)  
Sternwartstrasse 4  
81679 München Patentanwälte  
ALLEMAGNE Reitstötter, Kinzebach & Part.

Eing 10. Aug. 2005 *ad*

Sternwartstr. 4 D-81679 München

Date of mailing (day/month/year)  
04 August 2005 (04.08.2005)

Applicant's or agent's file reference  
M/44079-PCT

**IMPORTANT NOTICE**

International application No.  
PCT/EP2004/003425

International filing date (day/month/year)  
31 March 2004 (31.03.2004)

Priority date (day/month/year)  
01 April 2003 (01.04.2003)

Applicant

BASF AKTIENGESELLSCHAFT et al

1. **ATTENTION:** For any designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002 (30 months from the priority date), **does not apply**, please see Form PCT/IB/308(First Notice) issued previously.

2. Notice is hereby given that the following designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002, **does apply**, has/have requested that the communication of the international application, as provided for in Article 20, be effected under Rule 93bis.1. The International Bureau has effected that communication on the date indicated below:  
14 October 2004 (14.10.2004)

AU, AZ, BY, CN, CO, DZ, EP, HU, KG, KP, KR, MD, MK, MZ, NA, RU, SY, TM, US

In accordance with Rule 47.1(c-bis)(i), those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

3. The following designated Offices, for which the time limit under Article 22(1), as in force from 1 April 2002, **does apply**, have not requested, as at the time of mailing of the present notice, that the communication of the international application be effected under Rule 93bis.1:

AE, AG, AL, AM, AP, AT, BA, BB, BG, BR, BW, BZ, CA, CR, CU, CZ, DE, DK, DM, EA, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, JP, KE, KZ, LC, LK, LR, LS, LT, LV, MA, MG, MN, MW, MX, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, SC, SD, SG, SK, SL, TJ, TN, TR, TT, UA, UZ, VC, VN, YU, ZA, ZW

In accordance with Rule 47.1(c-bis)(ii), those Offices accept the present notice as conclusive evidence that the Contracting State for which that Office acts as a designated Office does not require the furnishing, under Article 22, by the applicant of a copy of the international application.

**4. TIME LIMITS for entry into the national phase**

For the designated or elected Office(s) listed above, the applicable time limit for entering the national phase will, **subject to what is said in the following paragraph**, be **30 MONTHS** from the priority date.

In practice, **time limits other than the 30-month time limit** will continue to apply, for various periods of time, in respect of certain of the designated or elected Office(s) listed above. For **regular updates on the applicable time limits** (30 or 31 months, or other time limit), Office by Office, refer to the *PCT Gazette*, the *PCT Newsletter* and the *PCT Applicant's Guide*, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

It is the applicant's **sole responsibility** to monitor all these time limits.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Ellen Moyse

Facsimile No.+41 22 740 14 35

Facsimile No.+41 22 338 89 75